

Application No. 10/070,492
Amendment Dated June 9, 2004
Reply to Office Action of February 12, 2004

REMARKS/ARGUMENTS

Prior to this Amendment, claims 28-54 were pending. By this Amendment, claims 42, 43, 48, 52, 53 and 54 are canceled and claims 28, 30, 32-37, 39-41, 44-47, 49, 50 and 51 are amended. Subsequent to the present Amendment, claims 28-41, 44-47 and 49-51 are pending.

No new matter has been added by the present Amendment. Reconsideration and allowance of the application, as amended, are respectfully requested.

CORRECTION TO NOTICE OF REFERENCES CITED BY THE EXAMINER:

The Examiner specifically cited GB 960,488 to Trainer et al., but did not include this document on the Notice of References Cited that accompanied the pending Office Action. It is respectfully requested that the Examiner issue a new Notice of References Cited indicating that GB 960,488 has been considered such that it will appear on the face of any patent issuing from the present application.

**CORRECTION TO INFORMATION DISCLOSURE
STATEMENT FORM 1449, FILED MARCH 7, 2003:**

An Information Disclosure Statement was filed on March 7, 2004. On the Form 1449, Japanese Patent Document 11-240080 by Bridgestone Corporation included an incorrect date of publication. The actual date of publication is September 7, 1999. Attached is a substitute Form 1449 which includes the correct date for this publication.

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REJECTION UNDER 35 U.S.C. § 112:

The Examiner first rejected claims 28-54 under 35 U.S.C. § 112, second paragraph, as being indefinite. First, in claim 28, line 5, the Examiner stated that the reference to plural “drums” is unclear. Likewise, the Examiner stated that there is analogous ambiguity in claim 35 at line 6.

By the present Amendment, applicant amends claims 28 and 35, as well as claims 36, 37, 39, 40, 41, 46 and 51 to better state that which he believes to be the invention. Any ambiguity with respect to the drum is believed to have been overcome.

Next, in claim 30, line 2, the Examiner stated that there is no antecedent basis for “said wrappers.” By the present amendment “said wrappers” has been amended to become “a plurality of wrappers.”

Next, the Examiner stated that claims 33 and 34 each depend from canceled claim 1. Claims 33 and 34 have each been amended to depend from claim 28 rather than claim 1.

Next, the Examiner stated that, in claim 42, line 2, no antecedent basis has been established for “said frame.” By the present amendment, claim 42 is canceled.

Finally, in claim 47, lines 3-4 and claim 54, lines 3-4, the Examiner stated that no antecedent basis has been established for “the pair of drums having the same outer diameter.” By the present Amendment, claim 47 is amended such that the antecedent basis is believed to be proper. Claim 54 is canceled by the present Amendment.

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REJECTION UNDER 35 U.S.C. § 103:

Claims 28-30, 33-41, 45, 47, 49, 51, 53 and 54 have been rejected under 35 U.S.C. § 103(a) as being unpatentable over GB 960,488 in view of U.S. Patent No. 1,337,690 (Converse et al.). Claims 31 and 32 have been rejected under 35. U.S.C. § 103(a) as being unpatentable over GB 960,488 in view of Converse et al. and further in view of U.S. Patent No. 4,126,720 (Edwards) and U.S. Patent No. 1,422,451 (Krusemark). Claims 30, 42-44, 46, 48 and 50 have been rejected under 35 U.S.C.103(a) as being unpatentable over GB 960,488 in view of Converse et al. and further in view of U.S. Patent No. 5,192,390 (Perkins). Claim 52 has been rejected under 35 U.S.C. 103(a) as being unpatentable over GB 960,488 in view of Converse et al. and further in view of U.S. Patent No. 885,219 (Bayne et al.). Applicant respectfully traverses the rejections.

A primary feature of the present invention is that a body ply material peeling mechanism 47 and a tray 50 are provided. The body ply material peeling mechanism comprises a peeling tool 163 for partially peeling an edge of a cut body ply material, following cutting of the wrapper, and a rotating peeling bar 175 entering a gap of the cut edge, formed by the peeling tool 163, to transfer the body ply material onto the tray 50. The tray 50 receives and supports the body ply material peeled from the drum. The tray 50 has a plurality of vacuum pads 190 for adsorbing the peeled body ply material on tray and is transported to a direction intersecting the axial line of the drum. See FIGS. 17-21. It is therefore possible to perform the peeling operation and transport the body ply material without fail.

GB 960,488 discloses a method and an apparatus for producing rubberized tire fabric. The method includes the steps of manufacturing a ribbon 1 in the form of a cord 2 having a rubber covering 3 applied thereto, spirally winding the ribbon on a drum 19 to manufacture a wrapper, and cutting the wrapper along the longitudinal direction of the drum 19. GB '488 discloses, if desired, the method will form a single ply for the tire. However, GB '488, alone or in combination with any other prior art of record, does not teach or suggest receiving a single cut ply, directly transporting the ply to the tire building drum and making a ply band, one by one. Therefore, GB '488, alone or in combination with any other prior art of record does not teach or suggest the claimed feature.

U.S. Patent No. 1,337,690 (Converse et al.) discloses a method of making adhesive cord strips and winding mechanism therefor. A cord is sometimes passed through a tube machine for applying a plastic rubber coating to the cord. The cord is wound around a drum 20 and then is cut along a helical groove 37 on the drum 20. Converse et al. disclose only winding the rubberized cord on a cylindrical drum and cutting the cord-cylinder along a helical groove on the drum. Converse et al. do not disclose forming a single ply for the tire from a cord and rubber, and transporting the ply to the tire building drum, one by one. Therefore, Converse et al., alone or in combination with the prior art of record, do not teach or suggest the claimed feature.

U.S. Patent No. 5,192,390 (Perkins) discloses mandrel means for forming tubular articles by helical winding of strip material or tape 25 around the mandrel means. The mandrel 29 comprises an endless belt 37 and two support drums 36. The tape 25 is wound around the mandrel 37. The envelope of the wound tape 25 is cut by a knife 41 to make a ply. A set of clamps 44 mounted on

a carriage 43 grips the edge of the ply and pulls the ply off the mandrel as the carriage moves outwards. Perkins discloses producing a reinforced ply of a range of sizes, gripping a cut ply on the mandrel and pulling the ply off the mandrel. In addition, Perkins discloses that the cutter cuts a plurality of ply pieces and a ply removal carriage moves into position under the mandrel. However, Perkins does not disclose forming and transporting a single ply, one by one. Gripping a cut ply edge and pulling the ply off the mandrel make ply cords disarrange, which are placed side by side. Accordingly, Perkins, alone or in combination with any of the prior art of record, fails to teach or suggest the claimed feature.

If the teachings by GB 960,488, Converse et al. and Perkins were combined, the combined process, which includes providing a cord and rubber, manufacturing a ribbon from the cord and rubber, winding the ribbon on a drum, cutting a single ply sheet, and transporting the ply to the tire building drum, would be somewhat similar to the claimed invention. However, the combined process is still different from the claimed feature that includes forming a single ply, continuously and repeatedly, from a cord and rubber of raw materials, one by one.

U.S. Patent No. 4,126,720 (Edwards) discloses a method of forming a body ply for a radial tire. A ribbon 10, embedded in the elastomeric material, is helically wound on a drum 22. The wound ribbon is removed from the drum, flattened to form a sheet of material of the length of the wound cylinder, formed into a further cylinder, and the two ends of the sheet, are joined to form the body ply of the radial tire.

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U.S. Patent No. 1,422,451 (Krusemark) discloses a method of making rubberized tire fabric. A cord is wound on a mandrel consisting of a pair of bars 7. After the cords are wound, the mandrel is collapsed to shift the cords to oblique position. Then, a piece of rubberized open-weave fabric 13 is wrapped around the coil of cords. The fabric is adhered to the cord-coil. However, Krusemark fails to disclose and teach the claimed feature.

Accordingly, we believe that the claimed invention is patentable over the cited references.

For at least the reasons set forth above, it is respectfully submitted that the above-identified application is in condition for allowance. Favorable reconsideration and prompt allowance of the claims are respectfully requested.

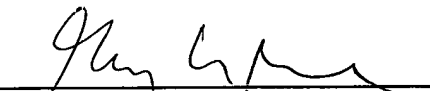
Should the Examiner believe that anything further is desirable in order to place the application in even better condition for allowance, the Examiner is invited to contact applicant's undersigned attorney at the telephone number listed below.

Respectfully submitted,

CAESAR, RIVISE, BERNSTEIN,
COHEN & POKOTILOW, LTD.

June 9, 2004

Please charge or credit our Account
No. 03-0075 as necessary to effect
entry and/or ensure consideration of
this submission.

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